

AMENDED CLAIMS

[Received by the International Bureau on 03 August 2005 (03.08.05);
original claims 1-41 are unchanged and new claims 42-47 are added. (2 Pages)]

34. The method of claim 33, wherein the shape of the lens array is formed in the mold by a drill bit-type tool.
35. The method of claim 34, wherein each lens in the lens array is circularly symmetric.
- 5 36. The method of claim 33, wherein the shape of the lens array is formed in the mold by a surface lathe, router, or grinder.
37. The method of claim 36, wherein each lens in the lens array is formed of micro-pyramids in a square tile pattern.
38. The method of claim 32, wherein the lens array is formed of a potting gel.
- 10 39. The method of claim 31, wherein the lens array is formed of glass.
40. The method of claim 39, wherein each lens in the lens array is circularly symmetric.
41. The method of claim 39, wherein each lens in the lens array is formed of micro-pyramids in a square tile pattern.
- 15 42. An LED module, the LED module including an array of LEDs, at least one LED of the array emitting light along each of plural light emitting sides, the LED module comprising:
- a lens encapsulating the at least one LED and having a first section;
- the first section being disposed relative to a first light emitting side of
- 20 the at least one LED so that the first light emitting side emits light that primarily projects into the first section; and,
- the first section including a first distal surface, the first surface being shaped toward substantially collimating light emitted along the first light emitting side in the light's transmission out of the first section through the first
- 25 surface.

43. The LED module of claim 42, wherein the lens has a second section, the second section being disposed relative to a second light emitting side of the at least one LED so that the second light emitting side emits light that primarily projects into the second section; and, the second section including a second surface, the second surface being shaped toward substantially collimating light emitted along the second light emitting side in the light's transmission out of the second section through the second surface.
44. The LED module of claim 43, wherein at least one of the first and second sections is provided so as to, in collecting and transmitting light, approximate the performance of a plano-convex lens conforming to standard lens formulas applicable to a point source of light, the point source of light being at the respective first or second light emitting side of the at least one LED.
45. The LED module of claim 44, wherein at least one of the first and second surfaces has a shape substantially equal to one of spherical, aspherical, or faceted.
46. The LED module of claim 43, wherein the lens has a third section, the third section being disposed between the first and second sections and including a third surface, the third surface having a selected shape.
47. The LED module of claim 46, wherein the at least one LED has a center line and the third surface is substantially planar and perpendicular to the center line.